

Remarks

In the application, claims 1 through 4 and 11 through 24 are presently pending. No claims have been allowed.

The non-final Office Action dated April 29, 2009, has been carefully considered. Claims 1, 7, and 10 are rejected under 35 U.S.C. §103(a) as obvious in light of U.S. Patent Publication 2004/0120409 (“Yasotharan”) and U.S. Patent 5,995,045 (“Georghiades”). Claims 2 and 8 are rejected as obvious in light of Yasotharan, Georghiades, and U.S. Patent 6,850,481 (“Wu”). Claims 3, 4, and 9 are rejected as obvious in light of Yasotharan, Georghiades, Wu, and U.S. Patent 6,226,337 (“Klank”).

The Claim Amendments

New claims 11 through 24 are added to more particularly characterize the invention. Claims 11 through 17 are directed to methods for generating and transmitting an OFDM signal. They are supported by the specification at, for example, paragraphs [0009], [0010], and [0021] and by Figures 1 and 4. Claims 18 through 24 are directed toward methods for receiving an OFDM signal. They are supported by the specification at, for example, paragraphs [0013], [0014], and [0024] and by Figures 1 and 4.

Minor informalities are corrected in claims 1 through 4.

Claims 7 through 10 are cancelled.

No new matter is introduced by these amendments.

The §103(a) Rejections

The Applicants respectfully submit that the combination of Yasotharan and Georghiades does not teach every element of the presently pending claims.

First, claim 1, as currently amended, calls for:

a data supplier . . . wherein a . . . *preamble signal . . . is time-multiplexed*
. . . with transmit data . . . to generate an OFDM transmit signal.

(Emphasis added.) The Office Action cites Yasotharan as disclosing this element. However, a close examination reveals that Yasotharan *multiplexes a training signal with an OFDM data signal* rather than, as in the presently pending claim 1, *multiplexing and then generating an OFDM signal from the result of the multiplexing*. This difference in the order of operation produces a significant difference in outcome: Yasotharan's output, a combination of an OFDM signal with a training signal, *is not an OFDM signal*. This can be seen in Yasotharan, Figure 1, and in paragraphs [0029] through [0031]. See, for example, Yasotharan, paragraph [0030]:

The transmitter controller 20 controls the generation of a digital complex baseband signal 35 having . . . *a training signal portion 202 followed by an OFDM data signal portion 204*.

(Emphasis added.) Thus, this element of claim 1 is not taught by, or suggested by, the cited art including especially Yasotharan.

Second, Georghiades is cited against other parts of this same element of claim 1:

a data supplier . . . wherein a . . . *preamble signal, which is obtained by passing a specified synchronization preamble through an ideal low-pass filter . . . is time-multiplexed . . . to generate an OFDM transmit signal*.

(Emphasis added.) However, Georghiades is a receiver method (see Figures 2 through 4, column 1, lines 46 through 54, and column 4, lines 16 through 19). In Georghiades, the receiver filters the received preamble signal. Georghiades does not teach filtering the preamble signal preparatory to transmitting it, and there is nothing in the cited art to suggest combining the receiver-side filtering of Georghiades with the transmitter-side multiplexing method of Yasotharan.

Third, Georghiades is again cited against other parts of this same element of claim 1:

a data supplier . . . wherein a *zero-amplitude reduced preamble signal, which is obtained by passing a specified synchronization preamble through an ideal low-pass filter in the synchronization signal generator . . .*

(Emphasis added.) The preamble signal of Georghiades may contain zeroes, but it is not obtained by filtering a synchronization preamble. (Again, see Georghiades, Figures 2 through 4, column 1, lines 46 through 54, and column 4, lines 16 through 19.)

In sum, the above quoted element of claim 1 is neither taught by, nor suggested by, the cited art either separately or in any combination.

The new independent claims 11 and 18 contain elements similar to those of claim 1 quoted above and are patentable over the cited art for at least the same reasons as given above. The dependent claims include by reference all of the elements of their antecedent independent claims and are thus patentable for at least the same reasons as stated above.

Conclusion

This application is considered to be in good and proper form for allowance, and the Applicants request that the Examiner pass this application on to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of this application, the Examiner is invited to call the Applicants' representative at the number given below.

Please charge any fees that may be due to Deposit Account 502117, Motorola, Inc.

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